REMARKS

In the Final Office Action, the Examiner noted that claims 1-48 are pending in the application, and that claims 1-48 are rejected. By this response, claims 1, 7, 9, 21, 23, 25, 27-31, 33, and 45 are amended, and claims 2-5, 8, 10-17, 20 34-41, and 44 are cancelled. In view of the above amendments and the following discussion, Applicants submit that none of the claims now pending in the application are indefinite under the provisions of 35 U.S.C. §112 or obvious under the provisions of 35 U.S.C. § 103. Thus, Applicants believe that all of these claims are now in condition for allowance.

I. REJECTION OF CLAIMS UNDER 35 U.S.C. §112

The Examiner rejected claims 1-48 as failing to comply with the written description requirement under 35 U.S.C. §112, first paragraph. In particular, the Examiner alleged that "[t]he specification is devoid of the terminology 'terrestrial link,'" which is recited in claims 1 and 31. Claims 1 and 31, as amended, do not recite a "terrestrial link" feature. Claims 6-7, 9, 18-19, 21-30, 32-33, 42-43, and 45-48 depend from claims 1 and 31 and also do not recite terrestrial link feature. Thus, Applicants submit that claims 1-48, as presently written, fully satisfy the requirements of 35 U.S.C. §112. As such, Applicants respectfully request that the rejection of claims 1-48 under 35 U.S.C. §112 be withdrawn.

II. REJECTION OF CLAIMS UNDER 35 U.S.C. §103(a)

A. Claims 1-25 and 31-47

The Examiner rejected claims 1-25 and 31-47 as being unpatentable over King (United States patent 6,211,819, issued April 3, 2001) in view of Taylor (United States patent 4,445,118, issued April 24, 1984). The rejection is respectfully traversed.

More specifically, the Examiner conceded that King does not disclose receiving ephemeris/clock data from a satellite control station. (Final Office Action, ¶3). The Examiner alleged, however, that Taylor teaches receiving satellite ephemeris/clock data from a Master Control Station at a control station. (Final Office Action, ¶8). The Examiner concluded that it would have been obvious to modify King such that

ephemeris/clock data is received from a Master Control Station as taught by Taylor. Applicants respectfully disagree.

King teaches receiving satellite ephemeris information and clock correction information directly from the satellites. In one embodiment, King teaches receiving the information directly from the satellites at a base station. In another embodiment, King teaches receiving the information directly from the satellites at another location, which then transmits the information to the base station. (See King, col. 4, lines 12-25). King does not disclose any other source for the ephemeris information and clock correction information other than the satellites themselves. King uses the received ephemeris and clock information to generate curve fit data. (King, col. 8, lines 3-7; FIG. 7). The curve fit data reduces the computational load associated with the raw ephemeris data, obviating the need for the remote receiver to store ephemeris data. (King, col. 10, lines 46-57).

Taylor teaches an aided GPS system, where user terminals receive an aiding signal in addition to the standard pseudo-random noise (PRN) signals transmitted by GPS satellites. (See Taylor, col. 5, lines 1-14). In particular, a remote control station receives almanac data from a master control station or from the satellites themselves. (Taylor, col. 5, line 58 through col. 6, line 18). The remote control station extracts satellite coordinate data from the almanac data in the form of instantaneous X, Y, and Z spatial coordinates, and transmits the satellite coordinate data to a geostationary satellite. (Taylor, col. 6, lines 46-48 and col. 6, lines 57-68). The geostationary satellite broadcasts the satellite position information to the user terminals. (Taylor, Figure 1).

The alleged combination, either singly or in any permissible combination, fails to teach, suggest, or otherwise render obvious Applicants invention as recited in amended claim 1. Namely, the alleged combination does not teach or suggest receiving ephemeris data from a satellite control station and transmitting a portion of the ephemeris data valid for at least four hours to a remote receiver. Specifically, Applicants' amended claim 1 positively recites:

> "A method for distributing satellite tracking data to a remote receiver comprising:
> receiving ephemeris data from a satellite control station;

transmitting at least a portion of said ephemeris data to the remote receiver, said at least a portion of said ephemeris data being valid for at least four hours." (Emphasis added).

First, King is completely devoid of any teaching or suggestion of receiving ephemeris data from a satellite control station. Rather, King receives ephemeris data from the satellites themselves (i.e., broadcast ephemeris), whether that data is received at a base station or at a mobile switching center.

Moreover, King does not teach or suggest transmitting a portion of ephemeris data valid for at least four hours to a remote receiver. Rather, King teaches the transmission of curve fit data to a remote receiver, where the curve fit data is calculated using ephemeris information. The curve fit data produced by King is not described as "any continuously varying function of time modeled with an infinite order polynomial," as alleged by the Examiner. (Final Office Action, ¶3). Rather, King merely recites a well-known mathematical construct that "[i]n general, any continuously varying function can be modeled with an infinite order polynomial." (King, col. 8, lines 47-48). As for the produced curve fit data, King states that the position polynomial may be limited to four terms, and the velocity polynomial may be limited to three terms, over a five minute interval of applicability. (King, col. 8, lines 58-63). Sending curve fit data that is valid for five minutes to a remote receiver, as recited in King, fails to teach or suggest sending ephemeris data that is valid for at least four hours, as claimed by Applicants.

Second, while Taylor teaches receiving satellite data from a Master Control Station, Taylor does not teach or suggest transmitting ephemeris data that is valid for at least four hours to a remote receiver. Rather, Taylor broadcasts instantaneous satellite coordinates to a user terminal. Broadcasting instantaneous satellite coordinates, as recited in Taylor, fails to teach or suggest transmitting ephemeris that is valid for at least four hours to a remote receiver, as claimed by Applicants. While the Examiner correctly states that the validity of the almanac data is known to exceed four hours, Taylor does not transmit the almanac data from the relay station to the mobile device. As described above, Taylor transmits instantaneous satellite coordinates. Since neither King nor Taylor individually teaches or suggests receiving ephemeris data from a satellite control station and transmitting a portion of the ephemeris data valid for at least four hours to a

remote receiver, no conceivable combination of King and Taylor teaches or suggests Applicants' invention recited in claim 1.

Furthermore, both Taylor and King actually teach away from sending ephemeris to a remote receiver. First, Taylor clearly teaches away from transmitting ephemeris data to a remote receiver that is valid for at least four hours, since Taylor is concerned with the production of instantaneous spatial coordinates from the satellite data. Taylor is not concerned with the generation of longer term satellite tracking data and its distribution to mobile receivers. Likewise, King explicitly teaches away from using ephemeris data at the remote receiver by stating that the invention therein "eliminate[es] the need to maintain satellite almanac or ephemeris data internally to the mobile." (King, col. 10, lines 55-57). As discussed above, King transmits curve fit data, rather than raw ephemeris data, in an attempt to reduce computation load at the remote receiver.

Therefore, Applicants contend that the invention of claim 1 is nonobvious in view of King and Taylor and, as such, fully satisfies the requirements of 35 U.S.C. §103. Moreover, claim 31 recites an apparatus for distributing satellite tracking data having relevant features similar to those recited in claim 1. For the same reasons discussed above, Applicants contend that the invention recited in claim 31 is also nonobvious in view of King and Taylor and, as such, fully satisfies the requirements of 35 U.S.C. §103. Finally, claims 6-7, 9, 18-19, 21-25, 30, 32-33, 42-43, and 45-47 depend, either directly or indirectly, from claims 1 and 31 and recite additional features therefor. Since the alleged combination of King and Taylor does not render obvious Applicants' invention as recited in claims 1 and 31, dependent claims 6-7, 9, 18-19, 21-25, 30, 32-33, 42-43, and 45-47 are also nonobvious and are allowable.

B. Claims 26-28 and 48

The Examiner rejected claims 26-28 and 48 as being unpatentable over Taylor and King in view of Moore ("Satellite Navigation Information Services," IEEE Colloquium on Implemenation of GNSS, published 1995). The rejection is respectfully traversed.

More specifically, the Examiner conceded that Taylor and King do not disclose the use of the Internet as a communication link between the base station and the remote receivers. (Final Office Action, ¶4). The Examiner alleged, however, that Moore teaches accessing satellite navigation data via a web page. (Final Office Action, ¶4). The Examiner concluded that it would have been obvious to provide the satellite navigation data of Taylor and King using a web server as taught by Moore. (Final Office Action, ¶4). Applicants respectfully disagree.

Moore generally discusses the available sources of information on satellite navigation systems. (See Moore, Abstract, page 6/1). The information, such as status messages, almanac data, or ephemeris data, is provided via a server connected to the Internet. (Moore, page 6/2).

Claims 26-28 and 48 depend, either directly or indirectly, from claims 1 and 31. The cited references, either singly or in any permissible combination, do not teach, suggest, or otherwise render obvious Applicants' invention as recited in claims 1 and 31. Namely, the alleged combination fails to teach or suggest receiving ephemeris data from a satellite control station and transmitting a portion of the ephemeris data valid for at least four hours to a remote receiver. As discussed above in Section II.A, the alleged combination of King and Taylor does not teach or suggest Applicants' invention of claims 1 and 31. Moore is devoid of any teaching or suggestion of receiving ephemeris data from a satellite control station. Rather, Moore is concerned with downloading information from the Internet. Thus, no conceivable combination of King, Taylor, and Moore teaches or suggests Applicants' invention recited in claims 1 and 31. Therefore, Applicants contend that claims 26-28 and 48, which depend from claims 1 and 31, are patentable over Taylor, King, and Moore and, as such, fully satisfy the requirements of 35 U.S.C. §103.

CONCLUSION

Thus, Applicants submit that none of the claims presently in the application are indefinite under the provisions of 35 U.S.C. §112 or obvious under the provisions of 35 U.S.C. § 103. Consequently, Applicants believe that all these claims are presently in

condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the maintenance of any adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Robert M. Brush, Esq. or Mr. Raymond R Moser Jr., Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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